REMARKS

This paper is filed in response to the Office Action mailed 29th September 2003. Claims 6-21 were pending in the application. Claims 6, 9, 10, 14, 17 and 18 have been amended and claims 22 and 23 have been added. Therefore, claims 6-23 are now pending in the application and are submitted for reconsideration.

Rejection of Claims 6-21:

Claims 14-21 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,789,882 issued to Ibaraki.

Claims 6-10 and 13 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,167,339 issued to Pels.

Claims 11, 12 were rejected under 35 U.S.C. § 103(a) as being obvious in view of U.S. Patent No. 6,167,339 issued to Pels in combination with U.S. Patent No. 4,866,622 issued to Dreher.

In response to these rejections, claims 6 and 14 have been amended to define a method for power optimization for a rail vehicle. Claims 9, 10, 17 and 18 have also been amended accordingly. No new matter has been added since the original description refers throughout specifically to trains, locomotives and rail traffic.

Ibaraki discloses a drive control apparatus specifically for use in an automotive vehicle. For such an automotive vehicle there is no suggestion of traveling a route according to a schedule and certainly no suggestion of time reserves. Furthermore, the device of Ibaraki has an electric motor operated by electric energy generated by an electric generator and stored in an energy storage device and an engine operated by combustion of a fuel. Both of these motors operate through the same drive train as is disclosed at column 11, line 6 to line 30. There is no suggestion in this document of any autonomy between the different drive systems in the vehicle.

Pels also discloses a hybrid vehicle having an internal combustion engine, a transmission with variable transmission ratio at least one additional unit driven by the drive unit, especially an electric generator. As in the case of Ibaraki there is no suggestion of traveling a route according to a schedule and certainly no suggestion of time reserves. Furthermore, there is no suggestion of any autonomy between the different drive systems in the vehicle, since the internal combustion engine is necessarily connected to the electrical generator in order to provide power thereto.

According to the present invention and as defined on page 4 at paragraph 1, the vehicle has separate drive trains, which determine the number of autonomous drive systems. In the case of Ibaraki and other such hybrid vehicles, only the energy sources are autonomous (in fact only partially, since the internal combustion engine is essential for providing the electric power to the electric motor and the vehicle could not operate without it). In particular, the invention is foreseen for use in the context of rail vehicles made up of a number of individually operable units (i.e. totally autonomous) which may be combined as desired by the train operator according to e.g. the passenger requirements.

In the light of these arguments, applicant believes that the subject-matter of claims 6 and 14 is now clearly distinct over the content of both Ibaraki and Pels.

Claims 7 to 13 and 15 to 21 depend from claims 6 and 14 respectively and are thus also distinct on that basis.

There is no suggestion in either Ibaraki or Dreher that the teachings in the field of hybrid automotive vehicles should be applied to the field of rail vehicles. In particular, there is no suggestion as to why or how the internal combustion and electrical drives could be made to function (partially) autonomously. The method according to claims 6 and 14 require certain actions to be actually performed on a rail vehicle. No suggestion is given in either of these documents that any of the actions described in the documents could also be performed effectively in the context of a rail vehicle, which typically operates under substantially different operating conditions.

The Examiner suggests that claims 11 and 12 are obvious in the light of a combination of Pels and Dreher. Dreher also relates to an automobile but provides no teaching of a plurality of autonomous drive systems. There is no suggestion that a combination of these documents could apparently lead to an anticipation of any of the claims of the present invention.

Applicants respectfully submit that nothing in the art of record teaches or suggests the present invention. In particular, US 5,788,004 to Friedman cited by the Examiner also relates to a hybrid motor vehicle. The arguments provided above apply to this document too. Reference US 5,440,489 to Newman does relate to rail vehicles but fails to provide any teaching concerning the possibility of two or more autonomous drive systems. The optimization discussed in Newman appears to relate to regulating schedules between different vehicles. It does not relate to the possibility of determining which autonomous drives to use for a given driving condition.

According to the present invention and as clearly disclosed in Figures 1 and 2, it can be determined e.g. that under certain driving conditions it is more efficient to operate the rail vehicle with one drive switched off. This is shown as the step or trough in the efficiency curve in the low torque region shown in Fig. 2 of the present application. Applicant is unaware of any prior art which suggests such a possibility.

In view of the above, Applicants respectfully request withdrawal of the rejections and allowance of claims 6 to 21.

New Claims:

Claims 22 and 23 have been added in order to more fully claim the subject matter of Applicants' invention. Support for the new claims can be found in the original specification as filed in the following locations:

New Claim:	Support in Original Specification:
22, 23	Page 3, line 1 to line 6
	Page 5, line 29 to line 38

Claims 22 and 23 are fully dependent upon claims 6 and 14. In view of the above, Applicants respectfully request entry and allowance of claims 22 and 23 by the Examiner.

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Any extension of time that may be deemed necessary to further the prosecution of this application is hereby requested. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 08-3038, referencing the docket number shown above.

The Examiner is respectfully requested to contact the undersigned by telephone at the number given below in order to resolve any questions.

Respectfully submitted,

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